Potential Addition of Per- and Polyfluoroalkyl Substances (PFAS) to the Toxics Release Inventory

Background

The addition of PFAS to the TRI chemical list would be a challenging endeavor given the wide range of chemicals of concern and the need to establish lower reporting thresholds to capture relevant releases. First, we would need to be instructed as to which chemicals or categories to add and we would need peer reviewed hazard assessments to support the addition of any PFAS to the TRI list based on their toxicity. Second, in order to lower the reporting thresholds, we need additional peer reviewed fate assessments to provide a basis for the lower thresholds. While we have lowered reporting thresholds in the past for chemicals that meet our PBT criteria[1], most PFAS do not meet the established bioaccumulation portion of that criteria. Therefore, we would need to establish a new justification for the lower reporting thresholds or at least modify our existing bioaccumulation criteria to capture the concerns for PFAS (e.g., accumulation in humans). And, a new justification could impact other chemical listings (e.g., should the justification apply to chemicals already on the list and/or future additions?).

Steps Involved in Determining Whether to List Some Portion of the PFAS Universe of Chemicals

- Receive direction on which chemicals to focus
    - Determine whether to list individual chemicals and/or chemical categories
        - Chemical categories would cause more facilities to trigger thresholds but then would not provide data specific to a chemical
    - Require hazard assessments to support listing, use existing assessments where available (to develop hazard assessments would be a substantial undertaking)
    - Determine possible reporters and likely thresholds required for reporting
    - Where reporters would not trigger standard thresholds, we would need to develop a new basis for lowering thresholds
- Note that TRI listing would not provide data on PFAS in consumer products or production or use quantities of PFAS
- Note that, at best, first TRI reports would be available July 2022 on 2021 data

[1] We have set lower reporting thresholds for PBT chemicals that met our minimum criteria (BAF/BCF 1,000 or more and persistence in water/soil/sediment of 2 months or more). Reporting thresholds of 100 lbs were established for PBT chemicals and 10 lbs for highly PBT chemicals (i.e., chemicals with BAF/BCF values of 5,000 or greater and persistence of 6 months or greater). We are not limited to lowering reporting threshold to just PBT chemicals but we have not established any other criteria for doing so.

How to List PFAS

TRI would need to determine how to list these chemicals. We can list individual chemicals, limited categories (e.g., chemical X and its salts), or broad categories (e.g., defined by some molecular formula). For a broad PFAS category we would still need to justify why all members of such a category meet the statutory toxicity criteria for listing. Assuming we have sufficient hazard information to support a category listing, the main issue is what data would be the most useful for TSCA assessment purposes. Therefore, we would want to work closely with the TSCA program to determine the best way to list the various PFAS.

Available Hazard Assessments

Other than the NTP report on carcinogens, the TRI Program relies either on existing peer reviewed EPA hazard assessments or develops its own peer reviewed hazard assessments to support listing chemicals. There are limited EPA assessments available for PFAS, although assessments are under way for more chemicals:

- PFOA (OW – completed), PFOS (OW – completed), dimer acid (OW & OPPT - summer 2018), PFBS (OW & OPPT - summer 2018)
- ORD is working on assessments for PFHxA, PFHxS, PFBA, PFNA, and PFDA (uncertain timeline)

Assessments from outside sources are also available but may not cover everything needed to support listing:

- ATSDR: PFHxS and PFNA
- Stockholm POPs: PFOS, PFOA, PFHxS (ongoing)

What PFAS to List

There appears to be enough toxicity data available in the existing EPA assessments to support the listing of PFOA and PFOS so those could be a starting point. However, there is some question as to the utility of listing PFOA or PFOS since industry has moved away from these chemicals. Reporting would likely be limited to uses of existing stocks and perhaps from impurities in other PFAS formulations.

For the other PFAS, it would be best to wait until EPA develops the necessary hazard assessments to support listing. It would seem redundant for the TRI Program to develop its own hazard assessments since these assessments are already under way. In addition, waiting for the assessments will also help focus TRI listing on those PFAS that are determined to be of most concern under TSCA.

Timeframe for Adding PFAS

Generally, developing a rulemaking to add a chemical or chemical category to the TRI list takes about 2 years but the timeframe depends on whether there are readily available hazard assessments to support the listing and whether OMB decides to review the rulemaking. The statutory language for listing chemicals requires at least 19 months from the time a final rule is published until EPA receives any data on the new listing. A chemical added between January 1 and November 30 of any year will have an effective date of January 1 the next year. For example, if a final rule is published by November 30, 2019, the effective date would be January 1, 2020 with the first reports due to EPA July 1, 2021 for the 2020 data.

Chemical Acronyms Used

PFBS - Perfluorobutanesulfonic acid	PFBA - Perfluorobutanoic acid
PFNA - Perfluorononanoic acid	PFDA - Perfluorodecanoic acid
PFOA - Perfluorooctanoic acid	PFHxA - Perfluorohexanoic acid
PFOS - Perfluorooctane sulfonate	PFHxS - Perfluorohexane sulfonic acid